

REMARKS

In the Office Action the Examiner noted that claims 1-23 were pending in the application. The Examiner rejected claims 1-6, 11, 16 and 19-23, while objecting to claims 7-10, 12-15, 17 and 18. Thus, claims 1-23 are pending in the application. The Examiner's rejections are traversed below.

Rejection Under 35 U.S.C. § 102

In item 1 on pages 2-6 of the Office Action the Examiner rejected claims 1-6, 11, 16 and 19-23 under 35 U.S.C. § 102 as anticipated by U.S. Patent 5,594,670 to Yamamoto.

The Prior Art

U.S. Patent 5,594,670 to Yamamoto is directed to an apparatus for measuring circuit constants of an induction motor using a vector control. A speed variable apparatus for the induction motor has a current control system (automatic current regulator or ACR) and has a function of measuring motor constants. The motor constants are described in an equivalent circuit of the induction motor (column 1, lines 9-17).

The Present Claimed Invention Patentably Distinguishes Over the Prior Art

Claims 1, 2-6 and 19-22

Claim 1 recites a first process for preparing a functional model of a product part based on a potential quantity and a flow quantity representing energy applied to the product part. Thus, in claim 1, a functional model of a product part is prepared, a steady internal characteristic value of the functional model in a steady state is identified and a transient internal characteristic value of the functional model in a transient state is identified by using the identified steady internal characteristic value. Claim 1 relates to "a part composing a product" as set forth on line 10 of page 1 of the specification. That is, "the product part" referenced in the present invention includes both a solitary mechanical part and a combined module part.

As indicated above, claim 1 recites "a first process for preparing a function model of a product part based on a potential quantity and a flow quantity representing energy applied to

the product part.” On page 2 of the Office Action, the Examiner takes the position that this feature is disclosed at column 2, lines 6-51 of Yamamoto. As indicated above, Yamamoto merely discloses an apparatus and method in which induction motor constants are determined from a primary voltage and current as well as frequency components of the induction motor when a current instruction is rapidly changed to zero from the steady state. Applicants have reviewed the portion of column 2 relied on by the Examiner but do not see how this disclosure is in any way relevant to the above-quote portion of claim 1. While Yamamoto discloses supplying a current to an induction motor and detecting input/output parameters of the induction motor, it is not seen how this relates to preparing a functional model of a product part based on a potential quantity and a flow quantity representing energy applied to the product part. Therefore, it is submitted that the claimed first process of claim 1 is not taught or suggested by Yamamoto.

The next portion of claim 1 recites “a second process for converting the functional model into a steady functional model in a steady state to identify a steady internal characteristic value.” On page 2 of the Office Action the Examiner takes the position that this feature is taught by Figure 3 and column 4, line 62 to column 7, line 52 of Yamamoto. Figure 3 of Yamamoto is described as an explanatory view of a current and magnetic flux of a primary circuit and a secondary circuit of an induction motor (column 2, lines 62-65). The designated portions of columns 4-7 of Yamamoto describe features relating to vector components during a steady state driving of the induction motor. Applicants do not see anywhere in the three columns of text cited the Examiner any teaching or suggestion relating to converting a functional model into a steady functional model in a steady state to identify a steady internal characteristic value as set forth in claim 1. While it is recognized that Yamamoto describes steady state driving of a motor, it is submitted that this does not correspond to the above-identified features of claim 1.

Claim 1 also recites “a third process for identifying a transient internal characteristic value of the functional model in a transient state by using the steady internal characteristic value.” The Examiner relies upon column 22, line 48 to column 24, line 4 as teaching this feature. This portion of the text essentially corresponds to claim 11 of Yamamoto which is directed to “[A] method for measuring at least one desired motor constant in an established equivalent circuit of an induction motor using a vector control system.” While claim 11 recites “a transient phenomenon of the induction motor” it is not seen where claim 11 has any teaching or suggestion relating to a process for identifying a transient internal characteristic value of the functional model in a transient state by using the steady internal characteristic value as set forth

in claim 1.

For the above reasons, it is submitted that claim 1 patentably distinguishes over Yamamoto.

Claims 2-6 and 19-22 depend, directly or indirectly, from claim 1 and include all of the features of that claim, plus additional features which are not taught or suggested by the prior art. Therefore, it is submitted that claims 2-6 and 19-22 patentably distinguish over the prior art.

Claim 11

Claim 11 recites:

“block replacement means for a functional model of a product part prepared by a potential quantity and a flow quantity representing a strength and a quantity of energy applied to the product part,

test reproduction means for reproducing at least one steady test model in a steady state of the functional model and at least one transient test model in a transient state,

testing means of the product part for performing a steady test and a transient test respectively corresponding to the steady test model and the transient test model,

measurement means for collecting steady test data and transient test data at a time when a steady test and a transient test of the product part are performed by the testing means, and

calculating means for identifying a steady internal characteristic value of the steady test model by using the steady test data, for applying the steady internal characteristic value to the transient test model to generate transient phenomenon reproduction data, and for correcting the transient phenomenon reproduction data based on an error between the transient phenomenon reproduction data and the transient test data, thereby identifying a transient internal characteristic value.”

On pages 2 and 3 of the Office Action the Examiner essentially relies on the same portions of Yamamoto described above with respect to claim 1, as teaching the features of claim 11. However, it is not seen how the more specific recitations of claim 11 could

reasonably be said to be taught by the identified portions of Yamamoto. Therefore, it is submitted that claim 11 patentably distinguishes over the prior art.

Claim 16 depends from claim 11 and includes all of features of that claim plus additional features which are not taught or suggested by the prior art. Therefore, it is submitted that claim 16 also patentably distinguishes over the prior art.

Claim 23

Claim 23 recites:

“preparing a functional model of a product part based on a potential quantity and a flow quantity representing energy applied to the product part;

converting the functional model into a steady state functional model to identify a steady internal characteristic value; and identifying a transient internal characteristic value of the functional model in a transient state by using the steady internal characteristic value.”

Therefore, it is submitted that claim 23 patentably distinguishes over the prior art.

Claims 7-10, 12-15 and 17-18

In item 2 on page 6 of the Office Action the Examiner objected to claims 7-10, 12-15 and 17-18 as being dependent upon a rejected base claim, indicating that these claims would be allowable if rewritten in independent form.

The above claims depend, directly or indirectly from claim 1 or claim 11 and include all of the features of the claim from which they depend, plus additional features which the Examiner has indicated patentably distinguish over the prior art. Therefore, it is submitted that claims 7-10, 12-15 and 17-18 patentably distinguish over the prior art.

Comments on Reasons for Allowance

In item 2 on page 6 of the Office Action the Examiner sets forth an Examiner's Statement of Reasons for Allowance wherein the Examiner appears to paraphrase certain claim language. It is submitted that the Examiner's statement is not an accurate quote of the claim language with respect to each of the objectionable claims. It is submitted that the claim language provides the best evidence of the reasons for allowability.

Request for Interview

It is respectfully requested that an interview be granted in connection with the subject application in order to discuss the application of the prior art to the subject claims.

Summary


It is submitted that none of the references, either taken alone or in combination teach the present claimed invention. Thus, claims 1-23 are deemed to be in a condition suitable for allowance. Reconsideration of the claims and an early notice of allowance are earnestly solicited.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: 3-26-04

By: 
John C. Garvey
Registration No. 28,607

1201 New York Avenue, NW, Suite 700
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501